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CENTRAL INTELLIGENCE AGENCY

## REPORT

# INFORMATION REPORT

COUNTRY Germany (Russian Zone)

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             Oberspreewerk, Berlin

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THIS IS UNEVALUATED INFORMATION FOR THE RESEARCH  
USE OF TRAINED INTELLIGENCE ANALYSTS

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The attached [redacted] report concerning activities at the  
Oberspreewerk is sent to you for retention. It was prepared at your  
request.

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25 YEAR RE-REVIEW

CLASSIFICATION

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Date: 15 May 1947

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Germany (Russian Zone)

Electronics Industry

## DEVELOPMENTS AT THE OBE SPREWERK (OSW)

## A. Directorate and Policy

1. [ ] 2,500 men were employed by the OSW. Of this number, approximately 500 were included in the Ossawakim deportations. There was danger that the plant would have to be closed since leading specialists had been deported. Gruner, together <sup>with</sup> ~~the~~ the plant board, in order to clarify the situation, took up this problem with the Russians.

Up to that date the plant had been controlled by the Russian Airforce.

Engineers and specialist officers selected by the Ministry for the Electrical Industry received special training to enable them to advise the Russian Airforce liaison officers attached to the plant, and to exploit the material found there.

It was expected that the OSW would be taken over by a Soviet corporation; however, this did not occur and the plant is still under the Soviet Military Administration. This arrangement results in difficulties in running the plant since there is no planned budget, and every ~~expenditure~~ expenditure must have the special approval of the Soviet Military Administration.

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There is also no definite work program, which, naturally, occasions a certain amount ~~of~~ of confusion.

At the request of the plant board, Dr. Bechmann has agreed to take over plant direction on the condition that he have the personal support of Gruner. Gruner could not take over himself since he was a party member and a military economic director. On 1 March 1947, Gruner was given notice, effective as of 31 March 1947. The plant

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pursuant to board's explanation for this step was that ~~in view of~~ the Moscow Conference, stricter <sup>n</sup>denazification measures were to be employed. However, on 30 March Gruner was informed by the Russian, Major Wildgruber, that he must remain with OSW until the Soviet Military Administration either dismissed him or decided to use him in another capacity. At that time it was the opinion of the Soviet Military Administration that Gruner's presence was essential to the continued operation of OSW. Gruner's present ~~position~~ <sup>standing</sup> in the plant places him in an exceedingly difficult situation since no one knows when he is likely to be removed; and as a result, he cannot exercise his function as director to any satisfactory extent.

He is to appear before a denazification board in Köpenick on 19 April 1947.

## B. Production to Date.

Up to the present time, the Oberspreewerk has produced:

- a. 2,500 klystrons, 9 and 3 cm.; approximately one-third of these are to be used <sup>for</sup> ~~in~~ equipping new devices. The remainder are designated as plant supply.
- b. 5,000 detectors
- c. Several hundred special detectors for millimeter waves (8 mm according to some sources)
- d. Approximately 5,000 Braun tubes for indicators.
- e. Several hundred special oscillograph tubes.
- f. Several hundred ~~blue writing~~ <sup>blauschrift\*</sup> tubes for code writers; developed by Telefunken, Prof. Schröter, Dr. Theile, Dr. Wendt.
- g. In addition, there is now in development a Braun tube, with the necessary sweep circuits, for very high <sup>recording</sup> ~~writing~~ speeds. Judging by the behavior of those here connected with its development, ~~it~~ it must involve a problem, the solution of which is expected to be of some special significance.

## C. Personalities

1. A Swiss national named Brändle controls the following departments:

\* Code for a type of tube with KCl screen which does not produce luminescent images but a dark trace where the photoelectric effect reaches into the infrared to which it is based.

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television, oscillographs, tube measuring and testing devices. He is in effect successor to Roosenstein.

2. His brother-in-law (name unknown) is a police officer in the American Sector, and is, at present, liaison officer in some branch of the British Military Government in Berlin. Brändle, through his brother-in-law's American contacts, is going to Switzerland ~~in the near future~~ in the near future for three or four weeks leave.

3. Köhler, formerly with Telefunken, has succeeded Feussner as head of the construction department. Mishewski, of Telefunken, is now at OSW also.

#### D. Production Plans

1. There are also departments engaged in work on decimeter, centimeter, and millimeter wave apparatus and measuring equipment. However, most attention is being accorded the production of tubes since the other departments are handicapped through the deportation of specialists.

2. According to Brändle, a commission arrived from Moscow at the beginning of 1947 to ~~establish~~ establish the production program according to the labor available after some deportation. The technicians hoped for some concrete plan as a result of this commission's visit. For example, it was hoped to continue work on the television film scanner for 600- to 1,000-line pictures, on which Eng. Bruch had been working. Bruch disappeared from the plant on 20 October 1946, but is still in Berlin and is negotiating with the French. The Russian commission decided that the television scanner must be completed. This was at the special request of an institute in Leningrad which is particularly interested in this apparatus.

The special tubes required, such as projection tubes and electron multipliers, have been produced by OSW in the meantime. However, the control system is vague since Bruch left no data behind when he left.

It is expected that the various parts for this apparatus will

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be completed in three or four weeks, and it is hoped that technicians will be found for assembly of the parts. One, Hertwig, is in charge of this work at the moment.

E. Oberspreewerk Program for April 1947, and Monthly Report of Work Done During February 1947.

1. Production Plan for April 1947

a. ~~Seven~~-Type Program

6J6	600	
<u>6AC70</u>	1,000	} only if bases are available, and using tubes on hand without bases
6AG7	500	
829B	80	} only if gold is available
5D21	80	
5FP7	90	
3DP1	70	

b. Metal Ceramic Tubes

LD7	20
LD9	50
LD11	30
LD12	20
OSW 2092	10 superstructures

c. Metal Klystrons

723A/B	15
726A	15
OSW 2163	15 superstructures

d. Magnetrons

OSW 2332	60 (for tests)
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e. Picture Tubes

OSW 2333	10 superstructures
OSW 2205	5 superstructures
OSW 2144	10 superstructures
OSW 2066	5 superstructures
OSW 2067	2 superstructures

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f. **Test** Lamps (~~Messerschmitt~~) [T.N. Number corresponds to type of diode gas rectifier]

OSW 2183 120

g. Barretters

OSW 2113

(H2/0.5 a) 600

h. X-ray tubes

WO 200/30 20

EW 190/8 7

i. Nickel Sockets

(type C) 20,000

(type D) 20,000

j. Measuring apparatus

Transmission testing device for type LD 90 1

Transmission testing device for type LD 70 1

Transmission testing device for type LD 12 1

**Blauschrift \***  
~~Blue writing~~ projection apparatus 1  
Loss

k. Production ~~loss~~, February 1947 (in percent)

Item	6AC70	6AG7	6J6	829B	5D21
Total	58	57	65	58	69
Average (1946)	70	60	71	72	82

1. 6AG7

56 percent plus 10 percent < plate current

4.2 percent > operating point

16 percent + I<sub>g</sub> point

10 percent vacuum/glow light

3.3 percent insulation H/K

The loss in + grid current, vacuum, and insulation is probably attributable to too high a cathode temperature. The filament current at present amounts to 720.....750 ma; the maximum, however, should be 680 ma. We shall attempt to reduce filament input through reduction of the weight of the wire. As in the case of the 6AC70, the plate

\* see footnote on page 2 of this translation

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current loss is partly attributable to the impurity of the <sup>purp</sup> exhaust stem. Three and one-half percent of the tubes exceed the characteristic limit at the operating point. This loss is caused by hose-like or barrel-like screen grids. The construction unit has been warned to pay particular attention to this point when inspecting the tubes. There are 250 tubes waiting for bases.

m. 6AC70

The loss consists primarily of emission losses (24 percent). This loss will be still higher in March since grey cathodes appeared when pumping the tubes. <sup>stem</sup> ~~found poisoning~~ of the cathodes, caused by residual chlorine in the exhaust ~~stem~~. The impurity is to be attributed to faulty washing of the <sup>stems</sup> ~~stem~~ after <sup>pickling</sup> ~~pickling~~ of the <sup>stem seal leads</sup> ~~stem seal leads~~. A test, in which the dirty exhaust <sup>stems</sup> ~~stem~~ were washed in alcohol, resulted in five tubes, out of five tested, exhibiting good emission characteristics. At the same time, examination of the <sup>plates</sup> ~~plates~~ for <sup>possible</sup> ~~possible~~ P 2 impurity is to be undertaken.

There is no longer sufficient material in stock to produce the copper clad <sup>stem seal leads</sup> ~~stem seal leads~~ in the .5-mm diameter required.

For this reason, <sup>stem seals</sup> ~~stem seals~~ were made <sup>for</sup> ~~for~~ which the <sup>leads</sup> ~~leads~~ ~~XXXXXXXXXXXXXXXXXXXX~~ were drawn down to 0.5 mm from heavier 1.5-mm and 1-mm diameter material. We were unable to discover any disadvantages when testing.

Thirteen hundred tubes are awaiting bases.

n. 6J6

<sup>stem seal</sup> ~~stem seal~~ A large lot of pumped tubes showed ~~stem~~ ruptures caused by too intense glowing of the grid lead.

The output of good tubes amounts to 57 percent.

The total output was increased to 70 percent through subsequent treatment of emission losses. Emission loss amounts to 20 percent; ~~XXXXXX~~ glow light, vacuum, and leak losses amount to 8 percent, breakage 4.5 percent.

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o. 5D21

~~We are~~

~~Testing~~ with the installation of ~~new~~ primary grids since it is expected that the sources of error will be found in the peeling off of the gold film on the grid.

- 1) Primary grid, nickel undersurface, gold plated
- 2) copper under surface, 0.1 gold plated
- 3) directly gold plated with low current density, ~~temp~~ temperature at 60 degrees Centigrade instead of 190 degrees.
- 4) nickel undersurface, gold plated and simultaneously completely shaped.

The grids with copper undersurface and gold plated exhibited particularly smooth and clean surfaces.

The sand-blasted ceramic discs, with clean handling during construction, also yielded a usable result; however, the magnesium-sprayed did not prove advantageous.

A delay in the delivery of the coils hindered the completion of these tests.

p. 829B

The February quota of 70 tubes was fulfilled. The shortage of gold will necessitate tests for other grid surface treatment. The first test involved a return to nickeled grids through a reduction in ~~by reducing~~ the general temperature level in the tube system ~~through~~ by means of blackening the ~~plate~~ <sup>plate</sup> with Skriptol.

In the ultrashort wave transmitter, at 1.5 m the ~~anode~~ <sup>plate</sup> lead is so heated ~~by~~ the high frequency current that the sealing loosens (usually has to be air-cooled). A test with gold-plated grids, in which the plate clip ~~( )~~ was made of molybdenum, was given up. Until now nickel, unsuitable for high frequencies due to its poor conductance and its permeability, was used. In addition, silver is inserted at the sealed wire (tungsten) - clip (nickel) weld point. Quotas for power test lamps and bolometers were fulfilled.

Loss averaged 10 percent.

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**CENTRAL INTELLIGENCE GROUP**

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2430 E STREET NW.  
WASHINGTON 25, D. C.

3 December 1947

From: Information Control, OSO  
Country: Germany (Russian Zone)  
Subject: Organization, Production, Research at the Oberspreewerk,  
Berlin

36506

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25 YEAR RE-REVIEW

**SECRET CONTROL**  
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Date: 15 May 47

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GERMANY (RUSSIAN ZONE)ELECTRONICS INDUSTRYDevelopments at the OberspreewerkDirectorate and Policy.

1. [ ] 2,500 men were employed by the OSW. Of these 25X1  
500 approx. fell victim to the Ossawakim deportations. The danger arose  
that the works would have to be closed as leading specialists had been  
deported. GRUNER together with the Betriebsrat took up this question  
with the Russians to clarify the position.

2. Up to that date the works had been controlled by the Russian  
Air Force.

Engineers and specialist officers selected by the Ministerium  
für Elektrotechnik received special training to enable them to advise the  
Russian Air Force liaison officers attached to the works and to exploit  
technically the material found there.

3. It was expected that the OSW would be taken over by a  
Sowjetische A.G. but this did not take place and even to-day the OSW is  
directly under the SMA. This results in difficulties in running the  
works as there is no planned budget and every item of expenditure must  
receive the special consent of the SMA.

4. There is also no set programme of work, which naturally leads  
to a certain amount of chaos.

5. At the request of the Betriebsrat, Dr. BECHMANN has agreed to  
take over direction of the works on condition that he has the personal  
support of GRUNER. GRUNER himself could not take over this direction as  
he was a Party member and Wehrwirtschaftsführer. On 1 March 47 GRUNER  
was given notice as from 31 March 47. The explanation given by the  
Betriebsrat for this step was that in view of the Moscow Conference  
stricter de-Nazification measures were to be employed. On 30 March,  
however, GRUNER was told by the Russian Major Wildgruber that he must  
remain at OSW until the SMA dismissed him or decided to use him in  
another capacity. At the moment it was the opinion of the SMA that  
GRUNER's presence was essential to the continued running of OSW. GRUNER's  
position in the works is now exceedingly difficult as no one knows when he  
is likely to be removed and as a result he cannot exercise his functions  
of director to any satisfactory extent.

6. He is to appear before a Denazification Committee in KÖPENICK  
on 19.4.47.

Production to date

7. Up to the present the OSW has produced:

2,500 Klystrons für 9 und 3 cm., von denen rund 1/3 für die  
Ausrüstung von neuen Geräten gebraucht wird. Der Rest ist  
als Nachschub für den Betrieb vorgesehen.

5,000 Detektoren.

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### Production Plans

9. There are also departments in OSW engaged on work on Decimetre, Centimetre and Millimetre wave apparatus and measuring instruments (Messgeräten). Most attention, however, is being paid to the production of valves, as the other groups are handicapped through the deportation of specialists.

10. a) [ ] a commission arrived from MOSCOW at the beginning of 1947 to settle the production programme of OSW according to the labour available after some deportations. The technicians hoped for some concrete plan as a result of this commission's visit. It was hoped for example to continue work of the Fernsehfilmbastaster for 600 to 1,000 line pictures, on which Ing. Bruch had been working. BRUCH disappeared from the works on 20 October 46 but is still in Berlin [ ] 25X1

[ ] The Russian Commission decided that the Fernsehbastaster must be completed. This was at the special request of an Institute in LENINGRAD which is particularly interested in this apparatus. 25X1

b) The special valves required, such as Leuchtschirmröhren and Elektronvervielfacher, have in the meantime been produced by OSW. The Schaltungstechnik is, however, vague, as BRUCH left no data behind when he disappeared.

c) It is expected that the various parts for this apparatus will be completed in 3 or 4 weeks and it is hoped that technicians will be found for the assembly of the parts. A certain HERTWIG is in charge of this work at the moment.

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